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NOISE



AN ELEMENT OF THE GENERAL PLAN
CITY OF SANTA MARIA, CALIFORNIA

NOISE ELEMENT FOR SANTA MARIA

Santa Maria -- City planning
City planning -- California
Noise control -- " -- Santa Maria

CITY OF SANTA MARIA

FEBRUARY 15, 1977

CITY COUNCIL

ELWIN E. MUSSELL, MAYOR
GEORGE S. HOBBS, JR., MAYOR TEMPORE
WAYNE T. HESSELBARTH
ALLEN BURKE
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PLANNING COMMISSION

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GLENN E. SEAMAN
CURTIS TUNNELL

PREPARED BY THE COMMUNITY DEVELOPMENT DEPARTMENT:

AL AUTRY, DIRECTOR


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PLANNING COMMISSION RESOLUTION NUMBER 1172

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RESOLUTION NO. 77-4317

A RESOLUTION OF THE CITY COUNCIL OF THE CITY
OF SANTA MARIA APPROVING AN ADDITION TO THE
ADOPTED GENERAL PLAN (NOISE ELEMENT) GP-76-6

WHEREAS, there has been submitted a proposed addition of a Noise Element to the General Plan as Element No. 10 of the adopted General Plan of the City of Santa Maria; and

WHEREAS, the proposed amendment on file with the City Council has heretofore been submitted to the Planning Commission of the City of Santa Maria, and the Planning Commission has recommended approval thereof by its Resolution No. 1172; and

WHEREAS, a public hearing on said amendment was set in the manner provided by law and duly noticed to be heard, and this Council fully heard and considered the initial environmental study applicable to said project proposal and it appeared that there would be no substantial detrimental environmental impact; and

WHEREAS, said public hearing has been held as provided by law, and this Council has heard all matters produced thereat, and has determined that the proposed addition of the said Noise Element should be approved;

NOW, THEREFORE, IT IS HEREBY RESOLVED as follows:

1. The foregoing recitals are hereby found to be true.
2. The Noise Element, in the form on file with the City Clerk, is hereby adopted as Element No. 10 of the adopted General Plan for the City of Santa Maria.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Santa Maria held February 15, 1977.

/s/ Elwin E. Mussell
Mayor

ATTEST:

/s/ Dorothy Lyman
City Clerk

STATE OF CALIFORNIA)
COUNTY OF SANTA BARBARA) ss.
CITY OF SANTA MARIA)

I, DOROTHY LYMAN, City Clerk of the City of Santa Maria and ex officio Clerk of the City Council, DO HEREBY CERTIFY, that the foregoing Resolution No. 77-4317 was duly and regularly introduced and adopted by said City Council at a regular meeting held February 15, 1977, by the following vote:

AYES: Councilmen George Hobbs, Wayne T. Hesselbarth, Allen Burke,
Jack Adam and Mayor Elwin E. Mussell.

NOES: None.

ABSENT: None.

/s/ Dorothy Lyman
City Clerk of the City of Santa
Maria and ex officio Clerk of
the City Council

RESOLUTION OF THE PLANNING COMMISSION
CITY OF SANTA MARIA

IN THE MATTER OF RECOMMENDING CITY COUNCIL)
FILING OF NEGATIVE DECLARATION OF ENVIRON-)
MENTAL IMPACT AND RECOMMENDING CITY COUNCIL)
ADOPTION OF NOISE ELEMENT, AS ELEMENT NO.)
10 OF THE GENERAL PLAN OF THE CITY OF SANTA)
MARIA)

RESOLUTION NO. 1172

WHEREAS, the California Government Code requires that each Planning Agency shall prepare and adopt a General Plan for the physical development of property; and

WHEREAS, said California Government Code specifies that the Noise Element shall be one of the required elements of said General Plan; and

WHEREAS, the adoption of a Noise Element of the General Plan is necessary for the health, safety, and welfare of residents and property owners in the City of Santa Maria; and

WHEREAS, the City Planning Commission has reviewed an initial environmental study concerning said Noise Element;

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Santa Maria recommends that the City Council file a negative declaration of environmental impact with the County Clerk;

BE IT FURTHER RESOLVED that the Planning Commission of the City of Santa Maria recommends City Council adoption of the Noise Element of the General Plan as submitted with this Resolution.

PASSED AND ADOPTED at a regular meeting of the Planning Commission of the City of Santa Maria, held February 2, 1977, by the following roll call vote:

AYES: Commissioners R. J. Rabska, Glenn E. Seaman,
Curtis J. Tunnell, William Couey, and Joseph A.
Olivera, Jr.

NOES: None.

ABSENT: None.

ATTEST:

/s/ Joseph A. Olivera, Jr.
JOSEPH A. OLIVERA, JR., Chairman
City Planning Commission

/s/ Alvin O. Autry
AL AUTRY, Secretary
City Planning Commission

I hereby certify that the above Resolution No. 1172 was adopted by the Planning Commission of the City of Santa Maria on February 2, 1977.

/s/ Alvin O. Autry
AL AUTRY, Secretary
City Planning Commission

NOISE ELEMENT FOR SANTA MARIA

INTRODUCTION

This City is more fortunate than most in regards to noise conflicts or problems. Due to the limited number of existing noise conflicts, the City, through the adoption of this Element and a Noise Ordinance has the opportunity to avoid or mitigate future noise problems.

The purpose of the Noise Element is to define the extent of the problem and to suggest practical ways of dealing with noise, now and as the community continues to develop. This Element is prepared in compliance with guidelines set forth by the State of California, Office of Noise Control. Additionally, the Element has been mandated by the state as a required Element of the General Plan since 1974 (as set forth in earlier Council on Intergovernmental Relations General Plan Guidelines).

This document is presented as follows:

I. DEFINING THE PROBLEM

An overview of the problem with discussion of noise in general terms, including specific noise sources in Santa Maria, and adjacent County areas impacted by noise, and definition of noise-sensitive uses.

II. DEALING WITH THE PROBLEM

A discussion of the possible mitigation measures available, including a selection of those most applicable to Santa Maria, and details of a noise compatibility planning process.

III. DELINEATING GOALS AND OBJECTIVES

A statement of what we should try to accomplish in terms of solving noise problems, expressed both in terms of long range perspective and intermediate steps to effect the abatement of detrimental noise.

IV. IMPLEMENTING

Presentation of specific policies and programs recommended to accomplish our stated goals and objectives.

V. TERMS

A listing and definition of technical terms used in this document.

VI. APPENDIX

The Technical Background Study for the Noise Element of the City of Santa Maria as a whole is an appendix by reference.
It constitutes the primary source for the data presented in this Noise Element.

Specific portions of that document have been extracted and added to this document for emphasis.

RELATIONSHIP OF THE NOISE ELEMENT TO THE GENERAL PLAN

Elements of the General Plan cannot logically be thought of as truly discrete or unrelated. In fact they must be viewed as highly inter-related, designed to work together to set a positive direction for the community. The State's Guidelines are very clear on this matter.

Specifically the Noise Element is related to other elements in at least the following ways:

<u>ELEMENT</u>	<u>RELATIONSHIP</u>
Circulation	Transportation facilities are a major noise source, and their location is critical in determining noise impact.
Open Space	Open Space uses can be used to buffer noise sources.
Housing	Recommended housing location should consider present and future noise sources.
Land Use	The Land Use Element is truly the summary element - tying together all the other elements. The revised Land Use Element for Santa Maria must be carefully designed to integrate the input of the Noise Element, since noise is such a significant consideration in all land use planning considerations. The Noise Element will be significant only to the extent that its concerns and recommendations are reflected in the policies and land use designations of the <u>Land Use Element</u> .

DEFINING THE PROBLEM

Noise, for the purposes of this document, can be defined as sound which is unwanted or undesired. It is sound at intense levels (or amplitude) at the wrong time and in the wrong place. For the purpose of this element, the measure of sound is the Community Noise Equivalent Level (CNEL). CNEL is a means of measuring noise in decibels, which approximates man's subjective response to noise sources. The CNEL provides a weighted summary of the amount of noise a particular area receives during a twenty-four hour period with a special emphasis on noise during the evening hours. A more detailed explanation is given under the TERMS Section of this document.

The CNEL provides a measure of our overall exposure to noise which we use to evaluate whether there is a problem. It is generally agreed that there is a problem when the ambient or regularly occurring noise level affects the average individual in any of the following ways:

1. General hearing loss or damage.
2. Impaired hearing for speech communication.
3. Interference with one's ability to understand oral communication.
4. Sleep interference.
5. Contributes to nervousness and tension.

Such problems occur when the dB(A) corresponds to the following levels over a period of time. It must be remembered that these measures are significant when translated into CNEL, the "averaged exposure."

Hearing Loss	85 dB(A) Actual exposure for eight hours - a work shift - is considered unacceptable. Workers are protected by the Federal Government at 90 dB(A).
Speech Interference	60 - 70 dB(A).
Sleep Interference	35 - 45 dB(A).

The Technical Appendix indicates the noise levels generated by a variety of sources.

The League of California Cities suggests the following levels as workable standards for various land uses:

Single Family Residential	50 dB(A) CNEL
Multi-Family Residential	55 dB(A) CNEL
Commercial	65 dB(A) CNEL
Industrial	70 dB(A) CNEL

The recommended standards for our area are discussed under the Goals and Policies Section of this Element.

NOISE IN SANTA MARIA

In general most residential areas in and around Santa Maria are exposed to a CNEL of no greater than 45 dB(A), well within the recommended limits. However, portions near transportation noise sources do experience levels in excess of 45 dB(A). It is these areas with which we need to be concerned.

Based on Federal and State standards, we must be concerned when the ambient outdoor level is 60 CNEL, although it would be desirable - if

not feasible - to take action at 45 CNEL which is the "quiet" level. The Noise Impact Zone map calls out the areas exposed to 60 CNEL, as well as levels above and below 60. It also calls out 65 CNEL, which we assume to be even more unacceptable for noise sensitive uses (which include residential as well as school, hospital, church, and rest home facilities. Each measure, 60 and 65 CNEL, is called out for specific reasons:

- a. 60 CNEL is reasonable as a threshold of concern for new development.
- b. 65 CNEL as a practical level for concern with existing noise conflict (noise sensitive uses being exposed).

EXPOSURE

Using the generalized contours, the following numbers of people are or will be (based on established trends) exposed to noise levels:

	Housing <u>Units</u>	<u>Persons</u>
65 or greater CNEL	606	1,714
60 or greater CNEL	1,751	4,495

The noise contours are a reflection of a generalized and steady exposure from transportation noise sources. The primary sources are:

1. Freeway.
2. Primary and secondary arterials.
3. Santa Maria Airport.
4. Santa Maria Valley Railroad.

Because of the regularity and predictability of the noise from these sources, generalization in CNEL was possible.

ADDITIONAL NOISE SOURCES

In addition to these sources directly associated with our primary transportation facilities which may be summarized as follows:

1. Construction activity.
2. Traffic noise on non-arterials.

3. Commercial/industrial noise producing activities.

Unfortunately measuring and computing the ambient noise level is much more imprecise for these sources. This is due to the limit of resources which could be devoted to the analysis.

Of the above listed items, 1 and 2 are experienced in greater or lesser degree by noise sensitive uses. Listed here are examples of some of the problem areas:

1. Rock Products Operation at the easterly end of Donovan Road generates peak noise levels to 98 dB(A) when heavily loaded trucks leave the yard. The measurement location was at the nearest residence adjacent to the facility (Measurement Location No. 11). Rock movement activity, other than truck movements, generate a noise level of about 58 dB(A) at this same location.
2. Truck Loading Activity on Depot Street near Mill Street (Frank L. Martin Co., Measurement Location No. 19), produces peak noise levels as high as 87 dB(A) at nearby residential locations.
3. Refrigeration Cars being held in the railroad switching yard on Jones Street produce a noise level of 80 dB(A) when measured 50 feet from the cars.
4. Improperly Muffled Engines on off-road vehicles, motorcycles, buses, and trucks, produce high noise levels throughout the Planning Area.
5. Agricultural Goods Packing and handling at a number of locations in the westerly and central part of the City. Specifically, the plant just west of the Santa Maria Valley Railroad on Stowell Road (Measurement Location No. 30) generates truck noise levels as high as 97 dB(A) and tractor operation at a level of 68 dB(A) when measured at a distance of 50 feet.
6. Movement of Petroleum Goods and related equipment develops a number of truck movements, particularly along the arterials to the east of the City. For example: At a location 100 feet north of Battles Road on Rosemary Road, heavy trucks generated peak noise levels of about 80 dB(A). About 20% of the traffic on Battles appears to involve heavy truck movements.

SUMMARY OF NOISE SOURCES

The following is a summary - by general category - of the noise sources within our Planning Area and the resultant impacts.

SOURCE/ACTIVITYSOURCE DESCRIPTION

1. Freeway Traffic Noise Traffic noise levels as high as 80 dB(A) are excessive when experienced at residential locations in proximity to the Freeway.

IMPACT: CNEL values at residential locations bordering the Freeway exceed 65 dB(A). Recognized standards indicate that these exposures are excessive and that some locations may be undesirable for residential uses.
2. Santa Maria Public Peak noise levels at locations to the
Airport Operations southeast of the runway exceed 80 dB(A).

IMPACT: Impact of aircraft operations is not considered significant, except at a few residential locations. Projected growth of general aviation and commercial flights should have no significant effect, according to the Airport District Noise Studies.
3. Train Movements Train noise levels exceed 70 dB(A) at residential locations along Jones Street bordering the right-of-way.

IMPACT: Noise levels at residential locations adjacent to Jones Street are excessive. Recognized standards are exceeded. The primary annoyance to residents involves late night and early morning train pass-bys.
4. Construction Activity Noise level of construction operations approach 100 dB(A) at distances to 50 feet and about 80 dB(A) at locations to 500 feet when measured at the construction site along Betteravia Road near Broadway, for example.

IMPACT: Minimal impact for two or three months of activity during daytime hours. Higher noise levels are now being experienced at locations near Betteravia Road due to heavy construction on this roadway. These impacts are suggestive of those that may be expected whenever such activity takes place, regardless of location.
5. Commercial/Industrial Agricultural/packing operations may produce noise levels to 75 dB(A) at near-by residential locations on Depot Street.

IMPACT: In general, commercial/industrial noise within the City is not considered excessive except where residential locations are adjacent to heavy industrial zones.
6. Schools, Hospitals & Parks Noise at these locations is generated

by traffic on the arterials adjacent to these facilities.

IMPACT: In general, the noise levels at most locations are not considered excessive. (There are isolated portions of schools in proximity to arterials exposed to higher noise levels.)

These are not offered as a comprehensive listing, but as some of the primary sources. Also, they are not readily translated to the CNEL. They can, however, be used to demonstrate that a need for close evaluation of new development and possible attenuation measures in areas near such activities. A complete listing of sites monitored appears in the Technical Appendix.

To summarize, there are significant noise problems of a generalized nature along transportation corridors and site specific problems at various locations throughout the Planning Area. These problems are considered significant because they do impact areas which are considered noise sensitive as discussed in State and Federal documentation.

DEALING WITH THE PROBLEM

There are a number of things to do in order to reduce the problems created by noise within the Santa Maria area. Basically the community can attempt to:

1. Eliminate or attenuate (reduce) the noise at its source.
2. Buffer noise-sensitive uses which may be adversely affected by noise transmitted from the source.

A practical approach involves utilizing both approaches. Among the techniques which could be utilized in the Santa Maria area, are the following mitigation measures related to the sources previously identified:

SOURCE/ACTIVITY CATEGORY

MITIGATION

- | | |
|--|---|
| 1. Freeway Traffic Noise | The installation of noise barriers should be considered as a mitigation measure. An acoustical analysis should be required of developments within the 60 dB CNEL of the Freeways. |
| 2. Santa Maria Public Airport Operations | Continue and strengthen noise abatement procedures established by the Airport District. Acquire or redevelop for non-noise sensitive uses, land to the |

SOURCE/ACTIVITY CATEGORYMITIGATION

- southeast of the airport, if significant growth of airport operations is to occur.
3. Train Movements Redevelopment and/or noise barriers should be considered for residential spaces within 100 feet of the right-of-way.
 4. Construction Activity Heavy construction should be limited to the weekday hours (7 to 6 p.m.) with minimal activity on week-ends. Noise of construction equipment should be considered in the procurement of equipment by the City Departments.
 5. Commercial/Industrial The adoption and effective implementation of a Noise Ordinance will insure that fixed sources of noise will remain at acceptable levels.
 6. All Sources Land use compatibility analysis.

Land use compatibility analysis (Tool 6) is the ultimate mitigation technique as it calls for keeping noise generating land uses (Items 1 - 5) separated from noise sensitive uses (residential areas, schools, hospitals and rest homes). It is the most complex to implement and yet provides the greatest opportunity for solving the problems literally before they begin.

DELINEATING GOALS AND OBJECTIVES

Goals, or statements of what we hope to ultimately accomplish, need to be delineated with respect to existing and future noise problems within Santa Maria. The following are recommended as very basic goals for our area:

1. To protect the health and welfare of the Santa Maria area through the identification and control of noise pollution. (This goal is set forth in the Government Code, Section 65302(g).)

Less generally:

2. To protect noise sensitive land uses from the impacts of noise generating activities through attenuation or buffering.
3. To "isolate" noise generating activities from the intrusion of noise sensitive uses.

4. To guard against the deterioration of the situation where conflict (between noise-generating and noise sensitive uses) presently exists.

The following are more specific and may be thought of as sub-goals or objectives:

Residential Areas:

1. Achieve essentially quiet level (no greater than 60 CNEL).
2. Achieve essentially noise-free environments within dwelling units, regardless of dwelling type or density (45 CNEL).
3. Limit noise transmitted from adjacent land uses (residential or other) to acceptable level for residential areas.
4. Encourage the development of residential units in areas away from present or projected noise sources.

Commercial:

5. Achieve a noise level (no greater than 65 CNEL) which does not interfere with normal business activity.
6. Limit noise transmitted from adjacent land uses to the level acceptable under Goal (5).

Industrial:

7. Allow noise levels (no greater than 70 CNEL) greater than acceptable in residential or commercial areas; but
8. Encourage compliance with State and Federal Health and Safety regulations.
9. Protect activity areas to which the public has general access to levels acceptable in a commercial area (no greater than 65 CNEL).

Particularly Noise Sensitive Uses:

10. Foster the protection of noise sensitive land uses such as schools, hospitals, rest homes, and churches from noise generating uses.
11. Encourage noise levels around these noise sensitive uses no higher than in residential areas, but preferrably no higher than 45 CNEL.

Circulation Uses:

12. Recognizing that the City does not have control over major vehicle noise standards, due to State pre-emption, the City should encourage mitigating residential and commercial designs along the major traffic routes in accordance with the permitted uses.

13. Discourage through truck traffic in residential and commercial zones except on designated truck routes or unless making deliveries within the area.
14. Discourage residential developments where traffic generated noise levels already exceed the residential zone noise level unless that residential development contains means for mitigation of the noise.

IMPLEMENTING

Implementing implies a commitment to action. It constitutes the full range of activities including utilizing policies for decision-making, as well as creating action-oriented programs. The basis for our implementation is the set of recommended goals and objectives set forth in the preceding section.

In recommending an implementation strategy the following considerations - based on our goals and objectives - were kept in mind:

1. Continually identifying noise problems which have a negative impact on health.
2. Preventing noise intrusions into existing "quiet" areas.
3. Taking advantage of opportunities before they are lost.

POLICIES

The following recommended policies should be viewed as "pre-dispositions to act in a prescribed manner" when faced with certain issues or questions. Clearly expressed noise policies will lend predictability and comprehensibility to the decision-making process. The recommended policies are:

1. That future development within the designated 60 or greater CNEL shall be evaluated on a project by project basis, with special consideration as follows:
 - a. Proposed residential developments in the Noise Impact Zone of the projected CNEL Contour Map, be required to provide a land use plan showing that a substantial portion of the outdoor living space has been reduced to a 60 CNEL or less. Acoustical analysis should indicate the use of noise barriers, residential layout, grading and/or earth fills, etc., as required to meet this land use criteria. This analysis shall be provided by the applicant.
 - b. Proposed residential developments within the 60 CNEL Contour or greater of the projected CNEL Contour Map, be required to provide a plan and supporting acoustical analysis to show that

interior living spaces will not exceed a CNEL of 45. This analysis shall be provided by the applicant.

2. Non-residential uses which may be noise-sensitive be required to provide a plan and supporting acoustical analysis to residential standards (60 CNEL). This analysis shall be provided by the applicant.
3. That any proposed noise-sensitive uses which are deemed to be within the influence (within 1,000 feet) of existing noise generators - as designated in this Element or by the Community Development Department, but not falling within the 60 CNEL Impact Zone - may be subject to an evaluation by the Department prior to project approval. If an acoustical analysis is required, it shall be provided by the applicant.
4. That any proposed new development or intensification of existing activity which can reasonably be expected to generate noise above 60 CNEL shall be evaluated for compatibility with adjacent noise sensitive land uses by the Community Development Department prior to project approval. If an acoustical analysis is required, it shall be provided by the applicant.

NOTE: For all practical purposes, these policies are implicit in our presently constituted environmental review process. Inclusion of these policies in this Element emphasizes their importance and City's commitment to include noise concerns as part of the departmental process.

PROGRAMS

The policies set the tone for our response to certain situations where noise is a concern. Programs go one step further by actively pursuing existing or potential problems. Programs do this through a series of actions which result in intermediate or end results, hopefully corresponding to meeting our goals and objectives.

The recommended programs are suggested with full understanding that many details and responsibilities for carrying them out still must be generated:

1. The City shall undertake an on-going Noise Control Program coordinated by the Community Development Department based on the requirements of a Noise Ordinance that was adopted by the City Council (Copies are available at the Community Development Department). Among the participants of such a program are to be Public Works, Police Department, and the County Health Department's Noise Control Officer. Such a program will emphasize enforcement of noise regulations set forth in such an ordinance as well as those pre-empted by the State or Federal government (but where local enforcement is permitted).

Included would be noise from:

- a. Motor vehicles on City streets.
 - b. Construction equipment.
 - c. Industrial activities.
 - d. Residential "nuisance" sources.
2. The City of Santa Maria shall actively engage in exploring possible attenuation or buffering measures for existing residential areas defined by the 65 CNEL Impact Zone. This exploration process shall be followed by a time-phased and cost-explicit schedule for the installation or construction of such mitigation measures, such as a barrier. A determination of who will bear this expense will be determined at such time.
 3. The City, through the joint effort of the Community Development and Public Works Departments shall investigate the feasibility of establishing:
 - a. Truck routes to channel traffic noise away from residential areas.
 - b. System of street improvements/alterations to discourage through truck traffic in residential areas.
 4. The City shall undertake a public education program to make the community more aware of the effects of noise and inform it of what is being done to combat noise. As the public becomes more aware of this problem, it can become a greater influence in achieving the ultimate solution by demanding quieter products, transportation elements, and industrial facilities.

TERMS

NOISE

Unwanted or undesired sound is sound out of the proper context at levels which may cause disturbance to conversation, sleep, or psychological well-being or ultimately injury to hearing. Noise is described using the following variables:

1. Amplitude of the acoustic wave to measure its magnitude or intensity.
2. Frequency (pitch) content of the wave motion. The frequency of a wave of sound is the number of times it repeats itself in each second.
3. Duration of the noise. How long a particular noise prevails, whether it be minutes, hours, days or when considering long term averages of noise, even a year.

A-WEIGHTED SOUND LEVEL AND LOUDNESS

The scale of measurement which is most useful in community noise measurement, is the A-weighted sound pressure level. It is measured in decibels, which is a logarithmic unit of measure of sound pressure. Zero on the decibel scale corresponds to a standardized reference pressure (0.0002 microbar or about 3×10^{-9} pounds per square inch).

A-weighted sound pressure level is abbreviated dB(A). The A-weighted measure of noise corresponds to a weighting of its frequency content just about the same way as most people hear sound. It can be measured by a relatively simple instrument, the sound level meter.

For an individual to experience a doubling of loudness, the amount of noise must increase by 10 decibels. The starting point of the decibel scale is "0" dB(A). This is about the weakest sound that can be heard by a person with good hearing in a very quiet location. Other points on this scale are identified in the adjacent figures of a Typical A-Weighted Sound Levels.

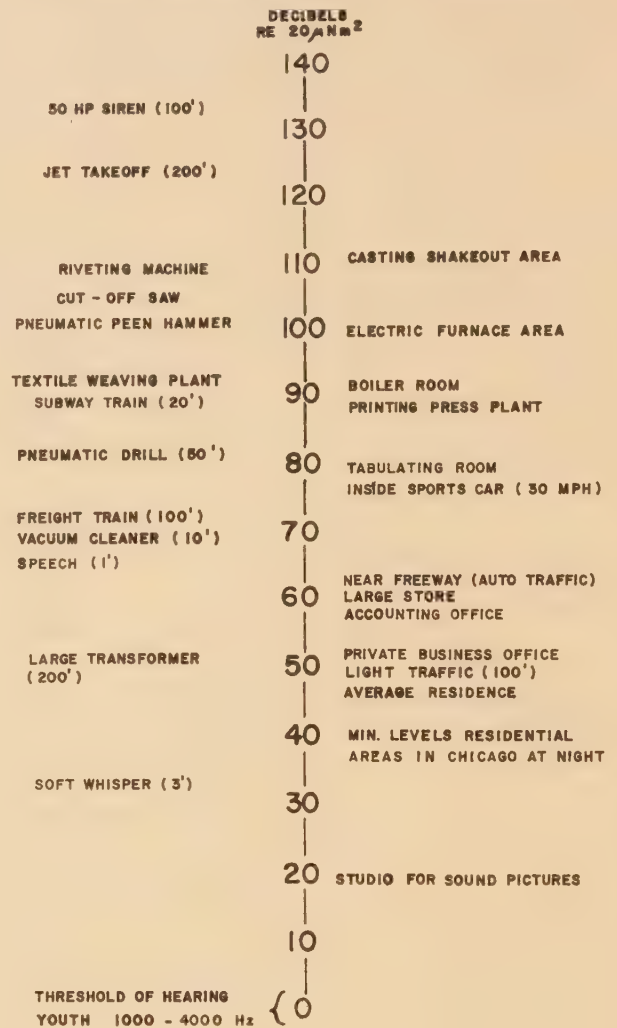
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)

It is recognized that a given level of noise may be more or less tolerable, depending on the duration of exposure experienced by an individual. The A-weighted measure of noise considers the magnitude of a given level of sound, but, does not consider its duration. To provide a description of community annoyance the Community Noise Equivalent Level (CNEL) term, has been developed. It also utilizes the logarithm unit of measure, the decibel. The CNEL combines the measurement of average A-weighted sound level with specified penalties to account for the duration of the noise and the time-of-day during which it occurs. The penalty imposed on noise at night (10 p.m. to 7 a.m.) is 10 dB above that for daytime noise. Noise during the evening hours (7 p.m. to 10 p.m.) is penalized 5 dB.

TYPICAL A-WEIGHTED SOUND LEVELS

AT A GIVEN DISTANCE FROM NOISE SOURCE

ENVIRONMENTAL



NOISE ORDINANCE

A noise ordinance is usually adopted to regulate the magnitude of noise generated by sources which are under the jurisdiction of the City. These are sources of noise such as, air-conditioners, compressors, commercial activities, such as, a car wash facility; or the machinery of an industrial plant. Motor vehicles on the highways, aircraft operations, and train movements, are pre-empted by State and Federal agencies. City noise ordinances use the A-weighted measure of noise and establish the maximum permissible noise which may intrude into a neighbor's property. For example: an intruding level of 45 dB(A) at night, is generally considered to be the maximum permitted. Daytime levels may be 5 or 10 dB(A) higher. The ambient noise created by sources such as traffic on the roadways, other than the intruding noise, must be considered when setting a reasonable and enforceable level in a noise ordinance.

NOISE SENSITIVE USES

Those land uses which are adversely affected by noise levels in excess of 60 - 65 CNEL. All residential areas fall into this category. Other particularly sensitive uses include schools, day care centers, hospitals, convalescent hospitals, rest homes, and churches.

ATTENUATION

Reducing the noise at its source. Buffering - reducing the noise at the noise sensitive location.

NOISE IMPACT ZONE

The area, as defined by noise contours, which is exposed to the noise level judged to be significant.

GOAL

A desired point or end - state to which efforts are directed. Usually conceived in long-range terms.

OBJECTIVE OR SUB-GOAL

A specific step or benchmark in the process of reaching a goal. More specific and shorter range than a goal, objectives are often thought of as a sub-goal.

POLICY

Formal or informal resolution to respond to situations in a certain manner, related to the achievement of goals.

PROGRAM

A coordinated set of actions aimed at meeting goals or objectives (sub-goals). It is distinguished from a policy (which is a pre-disposition to respond in a certain manner) in that it involves initiating action.

IMPLEMENTATION

The full range of activities aimed at achieving our goals and objectives, encompassing carrying out of adopted policies and creation of action programs.

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